

(No Model.)

C. RUSSELL.

GRAIN DRILL.

No. 335,721..

Patented Feb. 9, 1886.

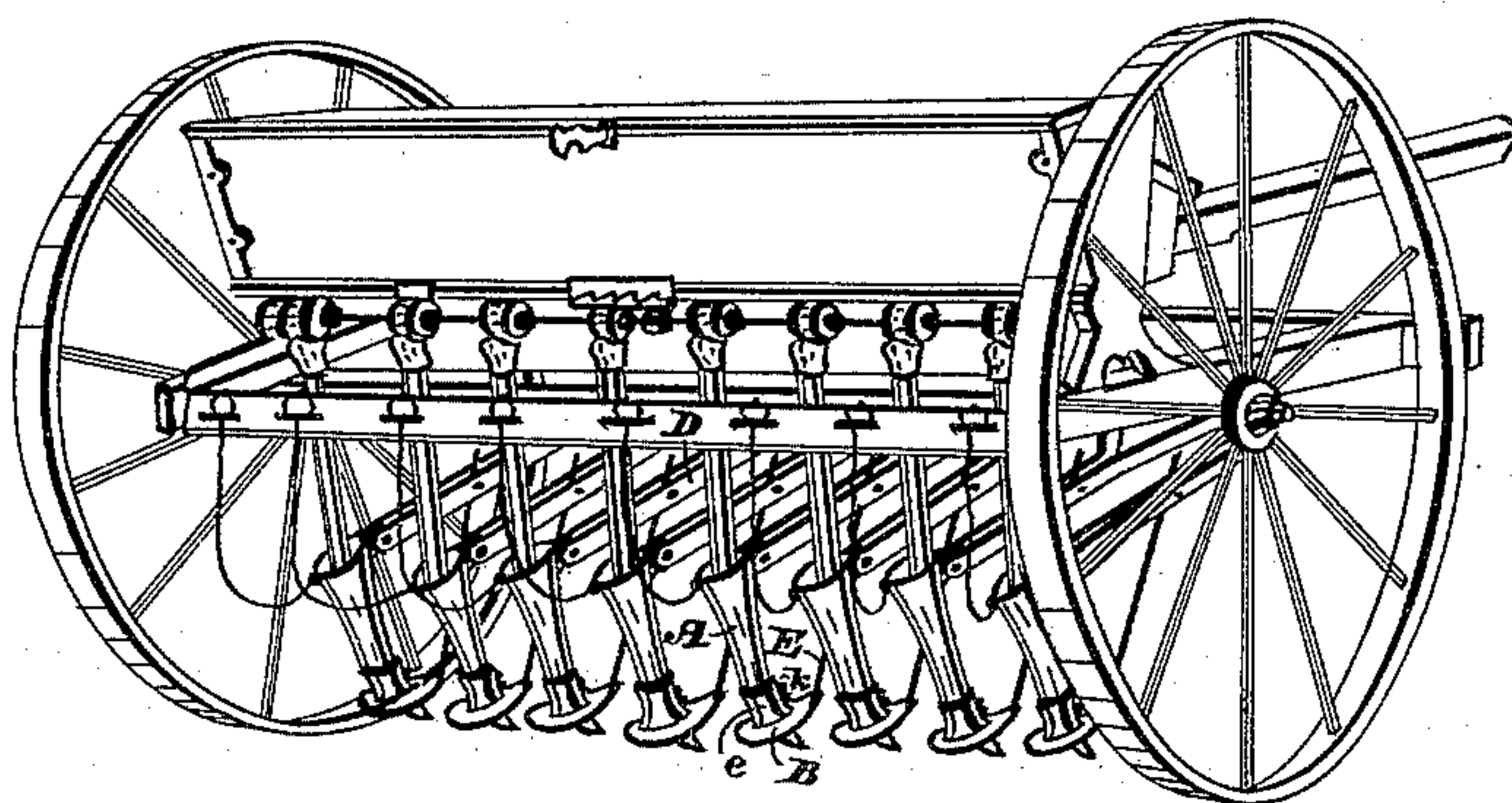


Fig. 1.

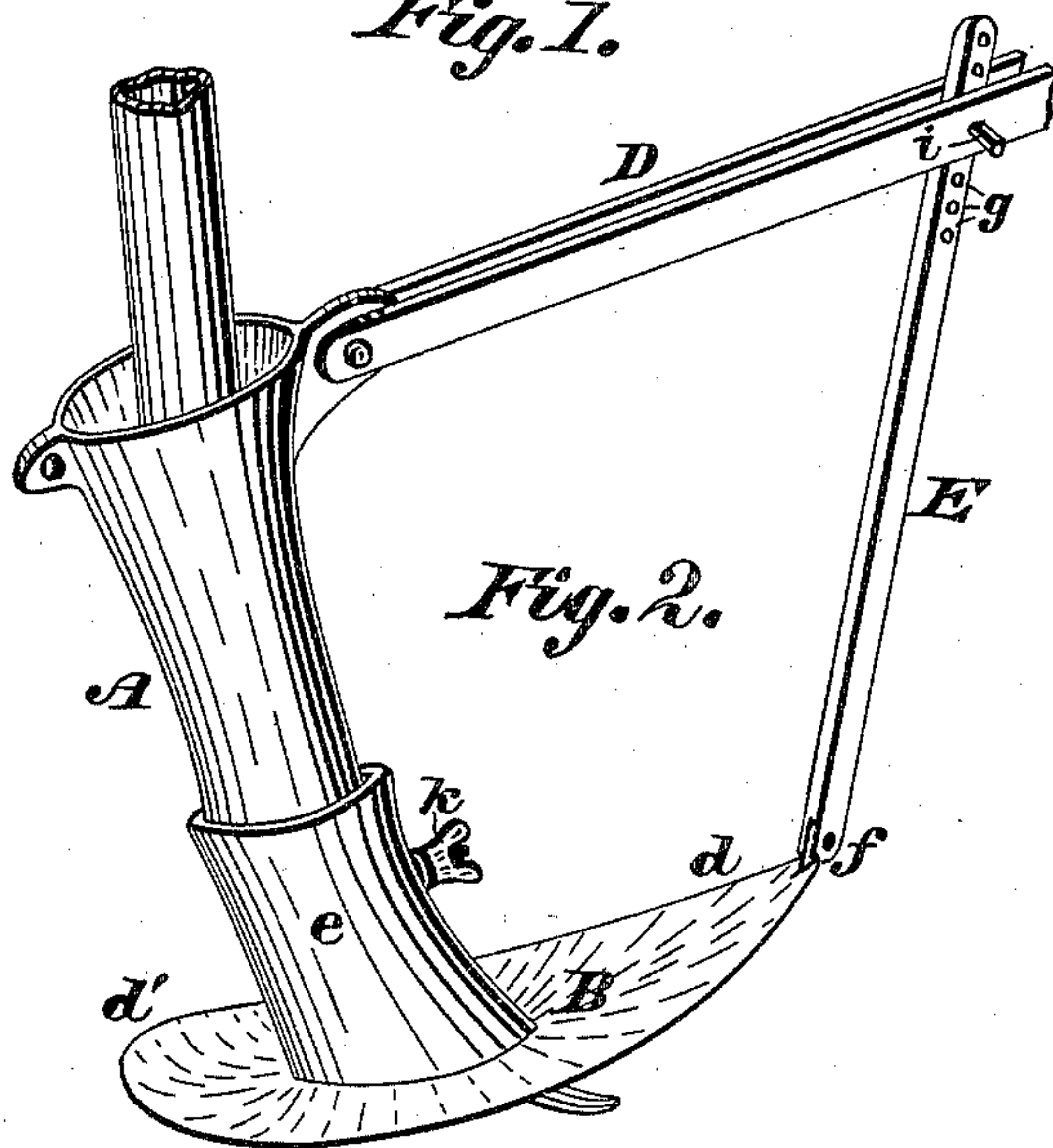


Fig. 2.

WITNESSES

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CLEMENT RUSSELL, OF MASSILLON, OHIO.

GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 335,721, dated February 9, 1886.

Application filed November 12, 1885. Serial No. 182,583. (No model.)

To all whom it may concern:

Be it known that I, CLEMENT RUSSELL, a citizen of the United States, and a resident of Massillon, county of Stark, State of Ohio, have invented a new and useful Improvement in Grain-Drills, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to improvements in grain-drills; and it consists in providing an adjustable shoe at or near the bottom of the hoe.

My invention further relates to the construction in detail and the combination of parts, as described, and set forth in the claims.

In the accompanying drawings, Figure 1 is a view of my invention as applied to a grain-drill. Fig. 2 is a view of a detached hoe, showing the manner of adapting my invention to the hoe.

The object of my invention is to overcome defects in grain-drills; and it consists in providing a drill-hoe, A, with a perforated supporting-shoe, B, that may be adjusted upon the hollow shank or tube of the hoe A to regulate the depth to which the point of the hoe may penetrate the soil and the depth at which the grain may be deposited below the surface. Said shoe consists of a body-section that rests upon the ground and an upright section provided with means for connecting it with the hoe or drill-tooth. The body-section projects rearward and forward of the hoe. The shoe B is perforated near its middle section, and about this perforation there is an upwardly-projected annular sleeve, *e*, provided with means for securing it to the drill-hoe. The forward projection, *d*, may be turned up, so as to allow the shoe to pass over the surface more easily. The rear projection, *d'*, is provided to act conjointly with front as a support for the hoe and to cover or to lightly press the soil about the sown seed. The upwardly-turned front end of the shoe B may be connected to the draft-cord D by a link, E, which has one of its ends pivotally connected to lugs *f* provided on the shoe, the other end having perforations *g* and adapted to a perforation, *h*, in the draft-cord, and when the parts are adjusted may be secured in position by a

wooden pin, *i*. This fastening-pin is preferably of wood, that in case of the hoe catching onto some unyielding obstruction the pin may yield to the pressure and avoid other and more serious damage.

As a means of adjusting the shoe to the hoe, there may be provided on the sleeve *e* an annular boss or re-enforcement of metal, perforated and threaded, and a set-screw, *k*, adapted thereto that may be turned in against the shank of the hoe for the purpose of securing the shoe to the hoe at any desired point of adjustment; or the parts may be slotted and a through-bolt adapted to the slots with a tightening-nut, that after the hoe has been passed through the shoe, the point projected the desired distance, preferably one inch, the parts, the shoe, and the hoe may be securely fixed in said desired adjustment.

I am aware that it is not broadly new to provide a drill-hoe with a trailing shoe which will limit the penetration of the hoe; hence I make no claim, broadly, to such a construction.

Having thus fully described the nature and object of my invention, what I desire to secure by Letters Patent is—

1. The combination, with a grain-drill hoe, of a supporting-shoe having a perforated bottom through which the point of the hoe may be passed, a section projected from the rear of said perforation, a section projected forward of said perforation, and an upwardly-projected sleeve, substantially as described, and for the purpose set forth.

2. The combination, with a grain-drill hoe, of a supporting-shoe having a bottom perforation through which the point of the hoe may be passed, front and rear projecting sections, and an upwardly-projecting section provided with means for adjusting and securing the shoe in said adjustment with the hoe, substantially as described, and for the purpose set forth.

3. The combination, with a grain-drill hoe, of a supporting-shoe having a bottom perforation, an upwardly-projecting sleeve about said perforation, through which the hoe may be passed, means for adjusting the shoe on the shank of the hoe so as to allow the point of the hoe to drop below the bottom of the shoe, and a connecting-link by which the shoe is

connected to the draft-cord, substantially as described and set forth.

4. The combination, with a drill-hoe, of a shoe having an opening therein for the passage of the hoe, and an upwardly-projecting sleeve adapted to embrace the hoe, substantially as set forth.

In testimony whereof I have hereunto set my hand this 9th day of November, A. D. 1885.

CLEMENT RUSSELL.

Witnesses:

CHAS. R. MILLER,
W. K. MILLER.